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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.          | CONFIRMATION NO. |
|-----------------|-------------|----------------------|------------------------------|------------------|
| 09/534,939      | 03/24/2000  | Thomas H. DiStefano  | Tessera 3.3-008 CIP DIV<br>C | 3218             |

530 7590 09/04/2002

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EXAMINER

GRAYBILL, DAVID E

ART UNIT PAPER NUMBER

2827

DATE MAILED: 09/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/534,939

Applicant(s)

DISTEFANO ET AL.

Examiner

David E Graybill

Art Unit

2827

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 June 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6-4-2 has been entered.

Claims 1-25 are objected to because the term "braking" in claim 1 appears to be grammatically incorrect.

Claims 1-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1, 6, 7, 15, 16, 19 and 22-25 the term "frangible" is a vague relative term of degree for which the disclosure provides no clear standard for measuring the degree, or it is not apparent if the degree is limited by the disclosure, and one of ordinary skill in the art, in view of the prior art and the status of the art, would not otherwise be reasonably apprised of the scope of the term.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1, 4-16, and 20-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Angelucci (4380042).

At column 4, line 13 to column 6, line 41, Angelucci teaches the following:

1. A semiconductor chip mounting component comprising:

(a) a support structure 20, 28 having a top surface, bottom surface, and a gap 26 extending through said support structure between said surfaces for defining first and second portions of said support structure;

(b) a plurality of electrically conductive leads 25, each said lead having a connection section extending across said gap, said connection section having a first end 23 disposed on the support structure on one side of the gap, a second end 35 secured to

said support structure on an opposite side of said gap, and a frangible section 36;

(c) at least one elongated bus 38 disposed alongside said gap, on one of said first and second portions of said support structure, wherein each of said leads extends across said gap and is connected to the bus, and wherein said leads are adapted to be bonded to contacts on a semiconductor chip by braking the frangible sections of said leads so as to disconnect said leads from the bus.

4. The component of claim 1, wherein the gap includes at least one elongated slot and wherein each of the leads extends across one of the elongated slots.

5. The component of claim 4, wherein at least one of said elongated buses is disposed alongside each of said elongated slots.

6. The component of claim 1, wherein the frangible sections of at least some of the leads are disposed adjacent the second ends of said leads.

7. The component of claim 6, wherein the frangible sections of at least some of the leads are disposed adjacent the first ends of said leads.

8. The component of claim 1, further comprising a polymeric reinforcement 20 in contact with each said lead.

9. The component of claim 1, wherein the bus is comprised of a metallic material.
10. The component of claim 1, wherein the support structure includes a dielectric layer 20.
11. The component of claim 10, wherein the dielectric layer is flexible.
12. The component of claim 10, wherein the support structure further includes a compliant layer 20.
13. The component of claim 11, wherein the support structure includes a said dielectric layer defining a top surface of said support and said compliant layer defining a bottom surface of said support.
14. The component of claim 13, wherein the leads are disposed on the dielectric layer.
15. The component of claim 1, wherein the connection section and the frangible section of each lead are formed integrally with one another and with the associated bus, the connection section of each lead defining a pair of opposed horizontal edges, and the frangible lead section of each lead having a pair of notches extending horizontally inwardly from said opposed edges to define a neck having a width less than the width between said edges.

16. The component of claim 15, wherein each said lead has a second end securement section extending between the frangible section and the associated bus.

20. The component of claim 1, wherein said support structure comprises a unitary support 26.

21. The component of claim 20, wherein said unitary support comprises a layer of dielectric material.

22. The component of claim 1, wherein said frangible section is mechanically weaker than said first and second ends of said connection section, whereby said frangible section is disconnectable from one of said first and second ends upon application of a force to said connection section.

To further clarify the teaching wherein the leads are adapted to be bonded to contacts on a semiconductor chip by breaking the frangible sections of the leads so as to disconnect the leads from the bus, it is noted that the limitation, "to be bonded to contacts on a semiconductor chip by braking the frangible sections of said leads so as to disconnect said leads from the bus," is a statement of intended use of the product which does not result in a structural difference between the claimed product and the product of Angelucci. Further, because the product of Angelucci has the same structure as the claimed product, it is inherently capable of being bonded to contacts on

a semiconductor chip by breaking the frangible sections of the leads so as to disconnect the leads from the bus, and the statement of intended use does not patentably distinguish the claimed product from the product of Angelucci. Similarly, the manner in which a product operates is not germane to the issue of patentability of the product; Ex parte Wikdahl 10 USPQ 2d 1546, 1548 (BPAI 1989); Ex parte McCullough 7 USPQ 2d 1889, 1891 (BPAI 1988); In re Finsterwalder 168 USPQ 530 (CCPA 1971); In re Casey 152 USPQ 235, 238 (CCPA 1967). And, claims directed to product must be distinguished from the prior art in terms of structure rather than function. In re Danley, 120 USPQ 528, 531 (CCPA 1959). "Apparatus claims cover what a device is, not what a device does [or is intended to do]." Hewlett-Packard Co. v. Bausch & Lomb Inc., 15 USPQ2d 1525, 1528 (Fed. Cir. 1990).

Claims 1, 17-21 and 25 are rejected under 35 U.S.C. 102(e) as being anticipated by Hayward (4801999).

At column 6, lines 6-53; and column 7, lines 23-45, Hayward teaches the following:

1. A semiconductor chip mounting component comprising:
  - (a) a support structure having a top surface, bottom surface, and a gap extending through said support structure between said surfaces for defining first 122 and second 160 portions of said support structure;



(b) a plurality of electrically conductive leads 128, each said lead having a connection section extending across said gap, said connection section having a first end disposed on the support structure on one side of the gap, a second end secured to said support structure on an opposite side of said gap, and a frangible section (the entire lead);

(c) at least one elongated bus 122 disposed alongside said gap, on one of said first and second portions of said support structure, wherein each of said leads extends across said gap and is connected to the bus and wherein said leads are adapted to be bonded to contacts on a semiconductor chip by braking the frangible sections of said leads so as to disconnect said leads from the bus.

17. A component as claimed in claim 1, wherein said support structure includes the first and second portions, said gap including a plurality of elongated slots extending substantially around said first portion so that the slots are disposed between the first portion and the second portion, the component including a plurality of said elongated buses arranged on said second portion so that one such bus extends alongside each said slot.

18. The component as claimed in claim 17, wherein said buses are connected to one another so that said buses cooperatively form a

structure on said second portion substantially surrounding said first portion and said slots.

19. The component as claimed in claim 18, wherein said slots are connected to one another to form substantially continuous channel surrounding said first portion, said first portion being connected to said second portion only through said leads, whereby said first portion will be detached from said second portion upon breakage of said frangible sections.

20. The component of claim 1, wherein said support structure comprises a unitary support 122.

21. The component of claim 20, wherein said unitary support comprises a layer of dielectric material.

25. The component of claim 1, wherein said first and second ends of said connection section are joined together by said frangible section overlying said gap, at least one of said first and second ends of said connection section is displaceable within said gap relative to said support structure upon severing said frangible section while leaving a remainder of said connection section intact.

To further clarify the teaching of a frangible section, this is an inherent property of the leads because the leads can be readily or easily broken.

To further clarify the teaching wherein the leads are adapted to be bonded to contacts on a semiconductor chip by breaking the frangible sections of the leads so as to disconnect the leads from the bus, it is noted that the limitation, "to be bonded to contacts on a semiconductor chip by braking the frangible sections of said leads so as to disconnect said leads from the bus," is a statement of intended use of the product which does not result in a structural difference between the claimed product and the product of Hayward. Further, because the product of Hayward has the same structure as the claimed product, it is inherently capable of being bonded to contacts on a semiconductor chip by breaking the frangible sections of the leads so as to disconnect the leads from the bus, and the statement of intended use does not patentably distinguish the claimed product from the product of Hayward. Similarly, the manner in which a product operates is not germane to the issue of patentability of the product; *Ex parte Wikdahl* 10 USPQ 2d 1546, 1548 (BPAI 1989); *Ex parte McCullough* 7 USPQ 2d 1889, 1891 (BPAI 1988); *In re Finsterwalder* 168 USPQ 530 (CCPA 1971); *In re Casey* 152 USPQ 235, 238 (CCPA 1967). And, claims directed to product must be distinguished from the prior art in terms of structure rather than function. *In re Danley*, 120 USPQ 528, 531 (CCPA 1959). "Apparatus claims cover what a device is, not what

a device does [or is intended to do]." *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990).

To further clarify the teaching of the limitation, "whereby said first portion will be detached from said second portion upon breakage of said frangible elements," this is an inherent property of the product of Hayward because the first portion is attached to the second portion by the leads having the inherently frangible elements, and the product can be used for the intended use.

To further clarify the teaching that at least one of said first and second ends of said connection section is displaceable within said gap relative to said support structure upon severing said frangible section while leaving a remainder of said connection section intact, such displaceability is an inherent property of the product of Hayward. Furthermore, this statement of intended use does not result in a structural difference between the claimed product and the product of Hayward. Because the product of Hayward is inherently capable of being used for the intended use, the statement of intended use does not patentably distinguish the claimed product from the product of Hayward. Claims directed to a product must be distinguished from the prior art in terms of structure rather than function. *In re Danley*, 120 USPQ 528, 531 (CCPA 1959). "Apparatus claims

cover what a device is, not what a device does." Hewlett-Packard Co. v. Bausch & Lomb Inc., 15 USPQ2d 1525, 1528 (Fed. Cir. 1990).

Claims 1-3, 20, 21 and 25 are rejected under 35 U.S.C. 102(e) as being anticipated by Nelson (5459634).

At column 4, line 64 to column 6, line 7, Nelson teaches the following:

1. A semiconductor chip mounting component comprising:
  - (a) a support structure 18 having a top surface, bottom surface, and a gap 32 extending through said support structure between said surfaces for defining first and second portions of said support structure;
  - (b) a plurality of electrically conductive leads 28, each said lead having a connection section extending across said gap, said connection section having a first end disposed on the support structure on one side of the gap, a second end secured to said support structure on an opposite side of said gap, and a frangible section (the entire lead);
  - (c) at least one elongated bus 36 disposed alongside said gap, on one of said first and second portions of said support structure, wherein each of said leads extends across said gap and is connected to the bus and wherein said leads are adapted to be bonded to contacts on a semiconductor chip by braking the

frangible sections of said leads so as to disconnect said leads from the bus.

2. The component of claim 1, wherein the gap includes a plurality of holes.

3. The component of claim 2, wherein at least one of the leads extends across each of the holes.

20. The component of claim 1, wherein said support structure comprises a unitary support.

21. The component of claim 20, wherein said unitary support comprises a layer of dielectric material.

25. The component of claim 1, wherein said first and second ends of said connection section are joined together by said frangible section overlying said gap, at least one of said first and second ends of said connection section is displaceable within said gap relative to said support structure upon severing said frangible section while leaving a remainder of said connection section intact.

To further clarify the teaching of a frangible section, this is an inherent property of the leads because the leads can be readily or easily broken.

To further clarify the teaching wherein the leads are adapted to be bonded to contacts on a semiconductor chip by breaking the frangible sections of the leads so as to disconnect

the leads from the bus, it is noted that the limitation, "to be bonded to contacts on a semiconductor chip by braking the frangible sections of said leads so as to disconnect said leads from the bus," is a statement of intended use of the product which does not result in a structural difference between the claimed product and the product of Nelson. Further, because the product of Nelson has the same structure as the claimed product, it is inherently capable of being bonded to contacts on a semiconductor chip by breaking the frangible sections of the leads so as to disconnect the leads from the bus, and the statement of intended use does not patentably distinguish the claimed product from the product of Nelson. Similarly, the manner in which a product operates is not germane to the issue of patentability of the product; *Ex parte Wikdahl* 10 USPQ 2d 1546, 1548 (BPAI 1989); *Ex parte McCullough* 7 USPQ 2d 1889, 1891 (BPAI 1988); *In re Finsterwalder* 168 USPQ 530 (CCPA 1971); *In re Casey* 152 USPQ 235, 238 (CCPA 1967). And, claims directed to product must be distinguished from the prior art in terms of structure rather than function. *In re Danley*, 120 USPQ 528, 531 (CCPA 1959). "Apparatus claims cover what a device is, not what a device does [or is intended to do]." *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990).

To further clarify the teaching of the limitation, "whereby said first portion will be detached from said second portion upon breakage of said frangible elements," this is an inherent property of the product of Nelson because the first portion is attached to the second portion by the leads having the inherently frangible elements, and the product can be used for the intended use.

To further clarify the teaching that at least one of said first and second ends of said connection section is displaceable within said gap relative to said support structure upon severing said frangible section while leaving a remainder of said connection section intact, such displaceability is an inherent property of the product of Nelson. Furthermore, this statement of intended use does not result in a structural difference between the claimed product and the product of Nelson. Because the product of Nelson is inherently capable of being used for the intended use, the statement of intended use does not patentably distinguish the claimed product from the product of Nelson. Claims directed to a product must be distinguished from the prior art in terms of structure rather than function. In re Danley, 120 USPQ 528, 531 (CCPA 1959). "Apparatus claims cover what a device is, not what a device does." Hewlett-Packard Co. v. Bausch & Lomb Inc., 15 USPQ2d 1525, 1528 (Fed. Cir. 1990).



Claims 1 and 20-25 are rejected under 35 U.S.C. 102(e) as being anticipated by McCormick (5550406).

At column 12, line 12 to column 14, line 15, McCormick teaches the following:

1. A semiconductor chip mounting component comprising:
  - (a) a support structure 320 having a top surface, bottom surface, and a gap 326 extending through said support structure between said surfaces for defining first and second portions of said support structure;
  - (b) a plurality of electrically conductive leads 312 each said lead having a connection section 312f extending across said gap, said connection section having a first end 312c disposed on the support structure on one side 326b of the gap, a second end 312e secured to said support structure on an opposite side 326a of said gap, and a frangible section.
  - (c) at least one elongated bus 340 disposed alongside said gap, wherein each of said leads extends across said gap, on one of said first and second portions of said support structure, and is connected to the bus wherein said leads are adapted to be bonded to contacts on a semiconductor chip by braking the frangible sections of said leads so as to disconnect said leads from the bus.

20. The component of 1, wherein said support structure comprises a unitary support.

21. The component of 20, wherein said unitary support comprises a layer of dielectric material.

22. The component of 1, wherein said frangible section is mechanically weaker than said first and second ends of said connection section, whereby said frangible section is disconnectable from one of said first and second ends upon application of a force to said connection section.

23. The component of 22, wherein said frangible section is disposed overlying said gap between said first and second ends.

24. The component of 1, wherein said frangible section is disposed overlying said gap between said first and second ends.

25. The component of 1, wherein said first and second ends of said connection section are joined together by said frangible section overlying said gap, at least one of said first and second ends of said connection section is displaceable within said gap relative to said support structure upon severing said frangible section while leaving a remainder of said connection section intact.

To further clarify the teaching wherein the leads are adapted to be bonded to contacts on a semiconductor chip by breaking the frangible sections of the leads so as to disconnect

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the leads from the bus, it is noted that the limitation, "to be bonded to contacts on a semiconductor chip by braking the frangible sections of said leads so as to disconnect said leads from the bus," is a statement of intended use of the product which does not result in a structural difference between the claimed product and the product of McCormick. Further, because the product of McCormick has the same structure as the claimed product, it is inherently capable of being bonded to contacts on a semiconductor chip by breaking the frangible sections of the leads so as to disconnect the leads from the bus, and the statement of intended use does not patentably distinguish the claimed product from the product of McCormick. Similarly, the manner in which a product operates is not germane to the issue of patentability of the product; Ex parte Wikdahl 10 USPQ 2d 1546, 1548 (BPAI 1989); Ex parte McCullough 7 USPQ 2d 1889, 1891 (BPAI 1988); In re Finsterwalder 168 USPQ 530 (CCPA 1971); In re Casey 152 USPQ 235, 238 (CCPA 1967). And, claims directed to product must be distinguished from the prior art in terms of structure rather than function. In re Danley, 120 USPQ 528, 531 (CCPA 1959). "Apparatus claims cover what a device is, not what a device does [or is intended to do]." Hewlett-Packard Co. v. Bausch & Lomb Inc., 15 USPQ2d 1525, 1528 (Fed. Cir. 1990).

To further clarify the teaching wherein said frangible section is mechanically weaker than said first and second ends of said connection section, it is noted that it is inherent that immediately before breaking, the frangible section is mechanically weaker than the first and second ends.

Applicant's amendment and remarks filed 6-4-2 are adequately addressed in the rejections supra.

The art made of record and not applied to the rejection is considered pertinent to applicant's disclosure. It is cited primarily to show inventions similar to the instant invention.

All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114.

Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS

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of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

***Any telephone inquiry of a general nature or relating to the status (MPEP 203.08) of this application or proceeding should be directed to Group 2800 Customer Service whose telephone number is 703-306-3329.***

Any telephone inquiry concerning this communication or earlier communications from the examiner should be directed to David E. Graybill at (703) 308-2947. Regular office hours: Monday through Friday, 8:30 a.m. to 6:00 p.m.

The fax phone number for group 2800 is 703/308-7722.



David E. Graybill  
Primary Examiner  
Art Unit 2827

D.G.  
30-Aug-02